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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of : Schneider, Joseph C.  
Serial No. : 10/711,102  
Filed : August 23, 2004  
For : MULTI-POSITION HEAD PLASMA TORCH  
Group Art No. : 3742  
Examiner : Mark H. Paschall

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**REPLY BRIEF RESPONSIVE TO EXAMINER'S ANSWER**  
**MAILED AUGUST 13, 2008**

Dear Sir:

This Reply Brief is being filed in response to the Examiner's Answer mailed August 13, 2008.

**REPLY BRIEF**

In the Examiner's Answer mailed August 13, 2008, the Examiner maintained the rejection of claims 1-22, and 24 under 35 U.S.C. §103(a) as being unpatentable over Sorkin in view of Stuart et al. and New et al. The Examiner also maintained the rejection of claims 1-22, and 24 under 35 U.S.C. §103(a) as being unpatentable over Sorkin in view of New et al.

In the Examiner's Answer, and in response to Appellant's argument set forth in the Appeal Brief, the Examiner maintained two distinct rejections of independent claims 1, 10, and 17 under 35 U.S.C. §103(a). That is, the Examiner rejected claims 1-22 and 24 under §103(a) as being unpatentable over Sorkin in view of New et al. and Stuart et al. and also rejected the very same claims (1-22 and 24) under §103(a) as being unpatentable over Sorkin in view of Stuart et al. As previously set forth by Appellant, the two rejections, on their face, are contradictory. Either the Examiner believes that the combination of Sorkin and Stuart et al. teaches all of the elements of claims 1-22 and 24 or the Examiner does not believe that the combination of Sorkin and Stuart et al. teaches all of the elements of claims 1-22 and 24, and hence must also rely on New et al. for teaching those elements not disclosed in the other cited references.

Regardless of this, Appellant believes that (in both of the alternative instances) a *prima facie* case of obviousness has not been established and that one cannot be made based on the art of record. Specifically, Appellant believes that claimed elements are not taught or suggested in the art of record, that the Examiner stretched the teachings of the prior art to teach what is called for in the claims, and that the Examiner failed to provide proper motivation for combining the cited references. Each of the rejections is discussed herebelow.

**Rejection under 35 U.S.C. §103(a) over Sorkin (USP 6,380,508) in view of New et al. (USP 5,916,465) and Stuart et al. (USP 5,338,917)**

**Lack of Motivation to Combine the Cited References**

In support of the motivation to combine Sorkin with New et al. and Stuart et al., and in response to Appellant's arguments that one skilled in the art would not be motivated to combine the MIG torch taught in Stuart et al. with the plasma torch of Sorkin, the Examiner stated that "Mig (metal inert gas) and Tig (tungsten inert gas) are analogous art to plasma torches" and thus "the references are correctly applied in the above rejections." *Examiner's Answer*, August 13, 2008, pg. 7. The Examiner thus maintained the assertion that "[o]ne of ordinary skill in welding or cutting would have found it obvious and well within ordinary skill in the art to modify [ ] Sorkin with enhanced use capability by providing a pivotable head on the torch" and concluded that Appellant's arguments "carr[y] no patentable weight." *Id.* at pgs. 7-8. Appellant disagrees and believes that one skilled in the art would not be motivated to combine the cited

references as done so by the Examiner. Specifically, Appellant believes that the cited references actually teach away from such a combination. That is, with respect to Sorkin, the reference explains that “a need developed so as to simplify the technique of properly spacing the cutting torch from the encapsulation of the anchor and from the wedges of the anchor.” *Sorkin*, col. 4, lns. 51-54. Therefore, a primary object of Sorkin is to provide a tendon-cutting method “which is easy to use, relatively inexpensive, easy to implement and simple to manufacture.” *Id.* at col. 5, lns. 13-16. To that end, Sorkin discloses a torch having a simple geometry with the “head 24 [ ] connected to the handle 22 so as to have a portion extending downwardly toward the cutting nozzle 26.” *Id.* at col. 7, lns. 9-11. Combining the teachings of Stuart et al. with the torch of Sorkin, however, would complicate the design of Sorkin by adding a second rotation point via a ball-and-socket joint. To ensure proper spacing of the cutting torch, an operator would have to first set the correct angle of the ball-and-socket joint and then mate the pivot 28 with the pivot point 15, adding to the complexity of the cutting process and increasing the probability of improperly spacing the cutting torch. Furthermore, adding a ball-and-socket joint to the Sorkin torch would significantly increase the complexity of the torch construction, thus making the torch more difficult to manufacture. Therefore, contrary to a primary object of Sorkin, a combination of Stuart et al. and Sorkin would result in a torch that is complicated to use and difficult to manufacture. As such, Sorkin teaches away from such a combination.

Furthermore, and as previously set forth in the Appeal Brief, Appellant believes that one skilled in the art would not be motivated to adapt the elements of a MIG welding gun for use with a plasma torch. That is, comparing the structural requirements of a torch head configured for plasma cutting to the torch head disclosed and shown in Fig. 3 of Stuart et al. used for welding makes it clear that it is illogical to suggest that the pivotable conductor tube assembly 71 disclosed therein would be adaptable for use in a plasma cutting operation, such as that taught in Sorkin. *See Stuart et al.*, col. 6, lns. 7-10. The Examiner has provided no insight as to how the pivotable conductor tube assembly 71 of Stuart et al. could “obviously” be combined with the plasma torch of Sorkin and how such a combination would be “within ordinary skill” of one in the welding art. Instead, the Examiner has again made only conclusory statements that such a combination would be obvious because it provides “enhanced use capability,” a conclusion which clearly does not rise to the standard of “articulated reasoning” or a “rational underpinning [that] support[s] the legal conclusion of obviousness” as required in *KSR Int’l Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007). Because of the structural differences between MIG welding guns and plasma torches, a difference which is clear based on a comparison of Fig. 3 of Stuart et al. and Fig. 2 of the present application, Appellant believes that it would not have been obvious to one of ordinary skill in welding or cutting to combine Sorkin with New et al. and Stuart et al. to achieve the

present invention. As discussed below, a simple substitution of structural elements of Stuart et al. and New et al. into Sorkin would create an unworkable configuration that is either ineffectual or duplicative.

#### Combination is Unworkable

In response to Appellant's arguments that the combination of the cited references would not have a likelihood of success in achieving the claimed invention, the Examiner asserted that "[t]o modify the Sorkin torch head with a pivoting joint, as taught in both Stuart et al and New et al, is not very complex" and "merely encompasses a pivoting joint to lead to enhanced applications for the torch and easier maintenance of the torch." *Examiner's Answer*, supra at pg. 9. Appellant disagrees, as the combination of Sorkin, New et al., and Stuart et al. would result in a configuration that is far different than that which is called for in the current claims.

The combination of Sorkin with New et al. and Stuart et al., results in a torch configuration that is either ineffectual or duplicative. First, the combination of the cited references would merely result in a torch containing two separate mechanisms for pivoting and rotating a torch head. Specifically, Sorkin is directed to a plasma torch 20 having a pivot 28 that is a nipple extending from torch 20 and is received in a pivot point 15. During use, pivot 28 is inserted into pivot point 15 to allow an operator, upon rotation of the torch handle 22, to rotate the torch head 24 and sever a tendon. *Sorkin*, col. 7, lns. 3-17. Conversely, both New et al. and Stuart et al. teach a torch having a head pivotably connected to a handle with a ball-and-socket type connection. *See New et al.*, Fig. 1 and *Stuart et al.*, Figs. 5-8. Therefore, the combination of the pivot of Sorkin with the ball-and-socket connection of New et al. and Stuart et al. would result in a torch that can both rotate via the mating of pivot 28 and pivot point 15 and rotate via a ball-and-socket connection positioned between the handle 22 and the head 24. Such a configuration is duplicative and unnecessary, and as such there would be no motivation to combine either New et al. or Stuart et al. with Sorkin.

Additionally, the combination of New et al. with Stuart et al., further results in an ineffectual or duplicative torch configuration. That is, New et al. requires rotation between a first end 52 of the handle portion and a second end 54 of the handle portion to allow loosening and tightening of the ball-and-socket type connection and to allow for rotation of the torch head. Conversely, Stuart et al. teaches an integral handle 64 attached to a torch head via a pivotable coupling means 70. *See Stuart et al.*, Fig. 3. Applying an integral handle, as taught in Stuart et al., to the structure of New et al. would prevent rotation between the first and second portions 52, 54 of the handle in New et al. and thus would not allow the torch head to pivot. Were the opposite approach to be taken, and the pivotable handle portions of New et al. applied to the handle of Stuart et al., there still would be no reason to apply the teachings of New et al. to modify Stuart et al. Such a combination would only result in a welding torch containing two separate

mechanisms for pivoting and rotating a torch head (i.e., pivoting between handle portions and pivoting between the handle and torch head).

For at least these reasons, it cannot be concluded that one skilled in the art would find it obvious to combine the three references in any manner to achieve the present invention, as the combination thereof would result in a configuration that is far different than that which is called for in the current claims.

#### Claim Limitations are Absent from the Cited References

##### Claim 1

In maintaining the rejection of claim 1, and in response to Appellant's argument that the combination of references fails to teach a plasma torch having a restricted pivotable connection between the torch head and the torch body, the Examiner stated that "[t]his argument is without merit since both the Stuart et al and the New et al systems include a locking positioning for the head relative to the torch during use [which] very clearly teaches a restrictable movement..." *Examiner's Answer*, supra at pg. 10. Appellant respectfully disagrees. Specifically, Appellant believes that the Examiner has stretched the teachings of Stuart et al. and New et al. in order to teach that which is called for in claim 1.

While Stuart et al. may teach a pivotable connection between a torch head and a torch body, Stuart et al. does not teach or suggest the restricted pivotable connection between the torch head and the torch body as called for in claim 1. That is, while Stuart et al. does teach pivotal torch assemblies, Stuart et al. discloses a torch having a pivotal head assembly wherein a ball-and-socket type connection is used to hold a conductor tube in one of a fixed (i.e., non-pivoting) or an unrestricted position. Specifically, "[a] wave washer assembly . . . applies pressure to the ball and socket joint 100, thus holding the conductor tube in a fixed but readily adjustable position." *Stuart et al.*, col. 7, lns. 52-55. When the washer assembly is loosened, the pivotable member is allowed to move freely and unrestricted in any direction and to any degree. *See Stuart et al.*, col. 6, ln. 49 - col. 7, ln. 15. Contrary to the Examiner's assertion, a tightening of the wave washer assembly to prevent rotation of the conductor tube does not teach a "restricted pivotable connection" as called for in claim 1, as no pivoting is allowed after the tightening of the wave washer assembly. Likewise, a loosening of the wave washer assembly does not teach a "restricted pivotable connection" as the pivotable member of Stuart et al. is allowed to move freely and unrestricted in any direction and to any degree when rotation/pivoting is enabled, which is clearly not what is called for in claim 1.

Likewise, New et al. does not teach or suggest a restricted pivotable connection between the torch head and the torch body. Rather, New et al. discloses a spring mechanism 104, which locks the swivel member 74 in a non-pivoting position when it is compressed, or allows the head 70 of the torch 10 to be

rotated or swiveled to another unrestricted position when the spring mechanism 104 is decompressed. *See New et al.*, col. 4, lns. 5-11 (emphasis added). That is, when spring mechanism 104 is compressed, the swivel member 74 is locked in a non-pivoting position, which does not teach a “restricted pivotable connection” as called for in claim 1, as no pivoting is allowed when the spring is compressed. When the spring is decompressed, rotation and/or swiveling of the head 70 is unrestricted, which is clearly not a “restricted pivotable connection” as called for in claim 1.

Therefore, none of the cited references specifically discloses a plasma torch having a body with a first end fixed with respect to a second end and a torch head having a restricted pivotable connection to the torch body. For all the reasons set forth above, Appellant believes claim 1, and the claims that depend therefrom, are patentably distinct from the art of record.

#### Claims 10 and 17

In the Examiner’s Answer, the Examiner maintained the rejection of claims 10 and 17 under 35 U.S.C. §103(a) as being unpatentable over Sorkin in view of New et al. and Stuart et al. However, nowhere in the Examiner’s Answer does the Examiner address Appellant’s arguments made in the Appeal Brief directed to the failure of the cited references to teach what is called for in each of claims 10 and 17. As no new statements were set forth by the Examiner with respect to Appellant’s arguments regarding the failure of the cited references to teach what is called for in claims 10 and 17, Appellant believes no new arguments are needed and refers the Board to the arguments set forth in the Appeal Brief of December 10, 2007.

#### **Rejection under 35 U.S.C. §103(a) over Sorkin (USP 6,380,508) in view of Stuart et al. (USP 5,338,917)**

The Examiner also maintained the rejection of claims 1-22 and 24 under 35 U.S.C §103(a) over Sorkin in view of Stuart et al. stating that “one of ordinary skill in torch systems would have found it obvious to modify the Sorkin et al system with [the pivotable head of Stuart et al.] to effect enhance [sic] use of such torch.” *Examiner’s Answer*, supra at pg. 4. As set forth above, the rejection over Sorkin in view of Stuart et al., on its face, is contradictory to the rejection of claims 1-22 and 24 under 35 U.S.C. §103(a) as being unpatentable over Sorkin in view of New et al. and Stuart et al. That is, in further applying New et al. to the combination of Sorkin and Stuart et al., the Examiner admits that the combination of Sorkin and Stuart et al., by itself, fails to teach or suggest what is called for in the present claims. For this reason alone, the rejection of claims 1-22 and 24 under §103(a) over Sorkin in view of Stuart et al. appears to be deficient.

Appellant further believes the rejection of claims 1-22 and 24 under §103(a) over Sorkin in view of Stuart et al. to be deficient as the Examiner supports this rejection with arguments relating to a combination of Sorkin and New et al. Specifically, the Examiner stated:

In view of a pre-appeal conference in the instant prosecution, a new rejection, leaving out the Stuart et al patent was issued, Sorkin teaching the basic plasma torch and the patent to New et al relied on for teaching a pivotable head, element 78 in figure 4 in New et al. it was discussed at the above conference that the two part handle of New et al would have two ends, which are fixed during use, thus satisfying the limitations of the claims.

*Examiner's Answer*, supra at pg. 10 (emphasis added).

No formal rejection of claims 1-22 and 24 over Sorkin in view of New et al. was ever presented in any previous Office Action nor was a new ground of rejection properly made in the Examiner's Answer. Under MPEP §1207.03, a new ground of rejection made in an Examiner's Answer **must be** "prominently identified in the 'Grounds of Rejection to be Reviewed on Appeal' section and the 'Grounds of Rejection' section of the answer." However, the 'Grounds of Rejection to be Reviewed on Appeal' of the Examiner's Answer states only that the "appellant's statement of the grounds of rejection to be reviewed on appeal is correct." *Examiner's Answer*, supra at pg. 2. Likewise, only two (2) 'Grounds of Rejection' are listed in the Examiner's Answer: (1) a rejection under 35 U.S.C §103(a) over Sorkin in view of New et al. and Stuart et al. and (2) a rejection under 35 U.S.C. §103(a) over Sorkin in view of Stuart et al. Because the Examiner's statements regarding a "new rejection, leaving out the Stuart et al patent" is only included in the 'Response to Argument' of the Examiner's Answer, such statements do not constitute a new ground of rejection under MPEP §1207.03.

Regardless of the Examiner's apparent confusion over the rejection that was issued, Appellant believes that the addition of either New et al. or Stuart et al. to Sorkin still fails to teach what is called for in the present claims. However, as claims 1-22 and 24 were rejected under §103(a) over Sorkin in view of Stuart et al. and not under §103(a) over Sorkin in view of New et al., the arguments set forth below address only the §103(a) rejection over Sorkin in view of Stuart et al.

#### Lack of Motivation to Combine the Cited References/Combination is Unworkable

As argued in detail above, one skilled in the art would not be motivated to combine the teachings of Sorkin and Stuart et al., and the combination thereof would not result in that called for in the claims. Specifically, such a combination (1) teaches away from what is specifically set forth in the cited references, and (2) would result in a torch with duplicative mechanisms for rotation. That is, the resulting

torch would include a first rotation point via the mating of pivot 28 and pivot point 15 (Sorkin) and additionally rotate via a pivotable, ball-and-socket type connection positioned between the handle 22 and the head 24 (Stuart et al.). Such a configuration is duplicative and unnecessary, and as such there would be no motivation to combine Stuart et al. with Sorkin.

#### Claim Limitations are Absent from the Cited References

##### Claim 1

As discussed above, while Stuart et al. may teach a pivotable connection between a torch head and a torch body, Stuart et al. does not teach or suggest the restricted pivotable connection between the torch head and the torch body as called for in claim 1. That is, while Stuart et al. does teach pivotal torch assemblies, Stuart et al. discloses a torch having a pivoting head assembly wherein a ball-and-socket type connection is used. “A wave washer assembly . . . applies pressure to the ball and socket joint 100, thus holding the conductor tube in a fixed but readily adjustable position.” *Stuart et al.*, col. 7, lns. 52-55. When the washer assembly is loosened, the pivotable member is allowed to move freely and unrestricted in any direction and to any degree. *See Stuart et al.*, col. 6, ln. 49 - col. 7, ln. 15. As such, while Stuart et al. may disclose a washer assembly that holds the conductor tube in either a fixed (i.e., non-pivoting) or an unrestricted position, Stuart et al. does not teach or suggest a restricted pivotable connection as called for in claim 1.

Sorkin does not teach or suggest a pivotable connection between a torch head and a torch body. Rather, Sorkin discloses a torch having a simple geometry with the “head 24 [ ] connected to the handle 22 so as to have a portion extending downwardly toward the cutting nozzle 26.” *Sorkin* at col. 7, lns. 9-11. As discussed in detail above, while Sorkin may disclose a pivot, the pivot 28 is a nipple extending from torch 20 that is received in a pivot point 15 to allow an operator, upon rotation of the torch handle 22, to rotate the torch head 24 and sever a tendon. *Sorkin*, col. 7, lns. 3-17. As such, Sorkin does not teach or suggest a pivotable connection between a torch head and a torch body as called for in claim 1.

As Sorkin, Stuart et al., or a combination thereof fails to disclose a plasma torch having a body with a first end fixed with respect to a second end and a torch head having a restricted pivotable connection to the torch body, Appellant believes claim 1, and the claims that depend therefrom, are patentably distinct from the art of record.

##### Claim 10

Claim 10 calls for, in part, for a multi-position head ratchetably connected to the plasma torch. The torch of Sorkin has a head 24 that is “connected to the handle 22 so as to have a portion extending downwardly toward the cutting nozzle 26.” *Sorkin*, col. 7, lns. 9-12. While the head 24 and handle 22 of



Sorkin may rotate together about a pivot point 15, the head does not have multiple positions with respect to the handle nor is it ratchetably connected to the handle as called for in claim 10.

Unlike Sorkin, Stuart et al. discloses a torch with a pivoting head pivotable with respect to a torch body. As discussed above, the torch head of Stuart et al. pivots via a ball-and-socket joint. The washer assembly within the ball-and-socket joints either (1) allows the head to rotate freely or (2) locks the head in one position. Specifically, Stuart et al. states that the “conductor tube [can] be rotated 360 degrees about the centerline of the handle and [can] be articulated approximately 15 degrees or more up and down and side to side in a generally conical area extending from the front end of the connector block.” *Stuart et al.*, col. 9, lns. 38-42. While the conductor tube can be rotated 360 degrees and articulated in a conical area, Stuart et al. does not teach or suggest a multi-position head ratchetably connected to the plasma torch as called for in claim 10.

For all the reasons set forth above, Appellant believes claim 10, and the claims that depend therefrom, are patentably distinct from the art of record.

#### Claim 17

Claim 17 calls for, in part, a plasma torch having means for providing restricted adjustment of a position of a work tip portion relative to a handle portion when the work tip portion is connected to the handle portion wherein the restricted adjustment limits rotation of the work tip portion relative to the handle portion along two axes. As stated above, Appellant does not necessarily disagree that Stuart et al. teach a torch having a head portion pivotably connected to a handle portion; however, there is no teaching or suggestion in Stuart et al. of a means for providing restricted adjustment of a position of a work tip portion relative to a handle portion to limit rotation of the work tip portion relative to the handle portion along two axes.

Stuart et al., discloses that the conductor tube is allowed to rotate 360 degrees about the centerline of the handle and to articulate approximately 15 degrees or more in a conical area. *Stuart et al.*, col. 9, lns. 11-22. While the connection assembly of Stuart et al. limits articulation to approximately 15 degrees or more in a conical area, rotation of the head portion of the torch along any axis remains unlimited. There is no axis along which rotation is limited in Stuart et al. That is, while articulation may be limited, rotation along an axis to reach an articulation limit is not limited. Thus, Stuart et al. fails to disclose that rotation is limited along two axes as called for in claim 17.

As such, Appellant believes claim 17, and the claims that depend therefrom, are patentably distinct from the art of record.

For these reasons, and for those reasons previously set forth in the Appeal Brief, Appellant believes that Sorkin, Stuart et al., and New et al. are not properly combinable under 35 U.S.C. §103(a)

and, even if combined, fail to teach or suggest that which is called for in the present claims. Accordingly, Appellant respectfully requests that the Board find claims 1-22 and 24 patentable over the prior art of record, direct withdrawal of all outstanding rejections, and direct the present application be passed to issuance.

Respectfully submitted,

/Kent L. Baker/

Kent L. Baker  
Registration No. 52,584  
Phone 262-268-8100 ext. 12  
klb@zpspatents.com

Respectfully submitted,

/Kevin R. Rosin/

Kevin R. Rosin  
Registration No. 55,584  
Phone 262-268-8100 ext. 15  
krr@zpspatents.com

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Attorney Docket No.: ITW7510.094

**P.O. ADDRESS:**

Ziolkowski Patent Solutions Group, SC  
136 South Wisconsin Street  
Port Washington, WI 53074  
262-268-8100